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URINARY BILHARZIASIS ON THE WITWATERSRAND

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This paper records the results of the surveys carried out in the northern environs of Johannesburg. Some of the schools visited lie within the municipal area of the city while others come under the jurisdiction of the Peri-Urban Board. The region lies in the northern watershed of the Witwatersrand and is traversed by several streams which join the Crocodile and eventually the Limpopo, which in turn flows into the Indian Ocean. From the southern Witwatersrand watershed the drainage is into the Vaal River and hence to the Atlantic Ocean. For as yet unknown reasons this southern area is free of potential vectors and also of the disease.

For some years now sporadic cases of urinary bilharziasis have been seen from the area in question. We have also in the past seen patients who have reported the development of a rash after bathing in the Klein Jukskei. The area therefore has a history of bilharziasis but, on the whole, the people of the city of Johannesburg who visit these parts are ignorant of the risks they run when picknicking and bathing during week-ends and holidays. Indeed, the local inhabitants themselves are on the whole quite unaware of the presence of the disease. For these reasons we report our findings although the survey was originally planned with other objects in view.

The area has for some years been closely studied by the Bilharzia Natural History Unit. Snail surveys together with ecological, biological and chemical data have been collected and the area is still under observation by us. We have found that at certain times as many as 40% of Physopsis snails may be shedding schistosome cercariae and although numerous laboratory animals have been infected we have never isolated any other parasite than a schistosome which we believe to be *B. bovis*. The absence of *B. haematobium* cannot, of course, be presumed from negative experiments using laboratory animals as they are very difficult to infect with this species of Bilharzia. It was obvious that the area formed a dense focus of *bovis* infection. In addition, it has been our experience that the miracidia of this parasite are particularly lethal to the local Physopsis and it occurred to us that here was a possible method of biological control which might have application under certain field conditions when ordinary control measures are ruled out. With this in view, we decided first to find out if the local *bovis* parasite could infect man; so arose, some 2 years ago, the first ideas of a survey of children in the area. Originally it was intended to examine only Bantu children living in the immediate vicinity of the Klein Jukskei. However, with the increase of staff of the Bilharzia Natural History Unit, the interest shown by the Transvaal Bilharzia Committee and the Union Health Department it was decided to enlarge the scope of the survey and to include certain European schools as well.

It must be understood clearly that the infection rates presented are the result of the examination of a single specimen of urine. This is important, as it is well known that single-specimen examinations only reveal a portion of the real number of infections. It remains to be said that Physopsis from the Klein Jukskei has been found by us to be susceptible to infection with *B. haematobium* in the laboratory.

Technique. Urine was collected, after exercise wherever possible, and transported to the laboratory. After sedimentation the supernatant fluid was decanted and the remainder centrifuged. The deposit so obtained was examined for ova. In some cases where the urine looked suspicious because of the presence of blood, a further sample was obtained. In spite of this, we do not believe that the survey has revealed the true incidence.

RESULTS

It is clear from Table I that most infections occur among boys between the ages of 10–16. This is quite understandable, since they are the most likely group to wander around and swim in odd places. From the map (Fig. 1) it will be seen that the most heavily infected schools are situated near the Klein Jukskei River and this no doubt has served as a source of infection for the children living in the neighbourhood. Disregarding the schools that are negative, and Craighall School with one positive which may have been acquired elsewhere, we find an over-all infection rate of 10% in boys and girls between the ages

TABLE I: THE INCIDENCE OF URINARY BILHARZIASIS AMONG SCHOOL CHILDREN IN AN AREA NORTH OF THE WITWATERSRAND

Age Groups	5—9						10—16					
School	*Male*	*No. +ve*	*Female*	*No. +ve*	*Total Examined*	*Total +ve*	*Male*	*No. +ve*	*Female*	*No. +ve*	*Total Examined*	*Total +ve*
Fontainbleau European	124	0	99	0	223	0	107	3	83	5	190	8
Rivonia European	25	0	14	0	39	0	14	0	17	0	31	0
Ferndale European	139	1	202	1	341	2	163	12	137	1	300	13
Craighall European	97	0	66	0	163	0	71	1	46	0	117	1
Bultfontein Bantu ..	7	0	8	0	15	0	23	0	51	0	74	0
Witkoppen Bantu ..	16	0	27	1	43	1	61	20	62	8	123	28
Ferndale Bantu ..	14	2	22	1	36	3	49	14	64	6	113	20
Totals ..	422	3	438	3	860	6	488	50	460	20	948	70

of 10 and 16 years in Fontainebleau, Ferndale and Witkoppen, all of which are situated near the Klein Jukskei River. Two of the Bantu schools near this stream show an infection rate of 20% in boys and girls of this age group.

Fig. 1. Showing the area surveyed and the Witwatersrand watershed.

The third Bantu school, Bultfontein, showed no infections, although situated near the Klein Jukskei. Our snail survey, however, has revealed the fact that this stream, after its junction with the Jukskei, is free of Physopsis. The Jukskei itself is also free of these snails.

We have little reason for doubting that the infections were acquired locally as their distribution follows very closely that of Physopsis in the area. Schools such as Rivonia, Bultfontein and Craighall, which are situated near streams known not to harbour Physopsis, reveal a single infection only.

We wish to record that one European child with a pure *bovis* infection was found during the course of the survey. This will be fully reported at a later date when all clinical data have been assessed.

SUMMARY

1. A bilharziasis survey based on the examination of a single-urine specimen of school children was carried out in the northern environs of the Witwatersrand.

2. European and Bantu boys and girls between the ages of 10–16 years showed the highest incidence rate.

3. Considering only those schools which are situated near the Klein Jukskei River, European children in the 10–16 age group show an infection rate of 10% and Bantu children 20%.

4. Physopsis snails from the Klein Jukskei were found to be vectors of *B. haematobium* under experimental conditions.

5. The area is known to be heavily infected with *B. bovis*, yet only one human infection was revealed by the survey. It is concluded that human beings are not readily susceptible to *bovis* infections.

We are greatly indebted to Mrs. H. Lurie, Miss F. Hardy, Mr. W. D. Oliff of the Plague Research Laboratory, Dr. J. R. Kieser of the Transvaal Bilharzia Committee, Dr. H. Eiselen of the Union Health Department, and the Principals of the schools for their active help and co-operation.

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EDITORIAL

DOES ARSENICAL POISONING PRESERVE THE DEAD BODY?

One of the most sedulously cultivated medico-legal myths, unsupported by anything except mere allegation, is that fatal arsenical poisoning prevents putrefaction. Glaister (*Medical Jurisprudence and Toxicology*, 9th ed., p. 139) says that the bodies of those who have died from poisoning by arsenic resist putrefaction longer 'owing to the preservative action of such substance on the tissues, or to their destructive, or inhibitive action on the organisms which induce decomposition.' Glaister also states (*op. cit.*, p. 547): 'The preservative influence of arsenic upon the tissues of those poisoned by this substance has been repeatedly observed and noted following exhumation, despite assertions to the contrary.'

Smith (*Forensic Medicine*, 9th ed., p. 32) distinguishes between acute and chronic arsenical poisoning and states: 'In death from acute arsenic poisoning, the stomach may be fairly well preserved . . . but the rate of decomposition of the body is not altered. . . . In chronic poisoning . . . there may be a distinct retardation of putrefaction, especially if the poison has been given in small doses over a long period.' The latter is a difficult argument to follow, as arsenic is constantly being excreted during the chronic form of poisoning and the amounts found in the viscera are usually less than in the case of acute poisoning.

The authorities are formidable and their views were certainly held by that redoubtable witness, Sir Bernard Spilsbury, who had no reservations in his mind about fatal arsenical poisoning as a cause of the preservation of the corpse. In the well-known Seddon case, Spilsbury was prepared to admit, on the basis of his autopsy findings, that death could have been due to 'epidemic diarrhoea,' but he excluded this probability because of the condition of the preservation of the body.[1]

A valuable South African contribution to the solution of this problem has been made by Copeman and Kamerman (*South African Medical Journal*, 12 October 1940, p. 379). They addressed themselves to this problem. Their data make it clear that putrefaction proceeds despite fatal arsenical poisoning and that in the few cases where moderate or good preservation of the corpse was found, the physical conditions of the soil, its drainage, etc., provided an adequate explanation of what was observed. Their conclusions were based on the study of 35 cases of fatal arsenical poisoning during a period of 5 years. Only

1. *The Trial of the Seddons.* Ed. by Filson Young, 2nd ed., p. 103. *Notable British Trials Series.* London: Wm. Hodge & Co. Ltd.

VAN DIE REDAKSIE

BEWAAR ARSEENVERGIFTIGING DIE DOOIE LIGGAAM TEEN BEDERF?

Een van die mees naarstiglik aangekweekte regsgeneeskundige mites is die stelling—enkel deur blote bewerings ondersteun—dat dodelike arseenvergiftiging ontbinding verhoed. Glaister (*Medical Jurisprudence and Toxicology*, 9de ed., bld. 139) sê dat die liggame van diegene, wat aan arseenvergiftiging dood is ontbinding langer weerstaan ,weens die bewaringsuitwerking van die stof op die weefsels, of weens hulle vernietiging van of verhindering van die organismes wat ontbinding in die hand werk.' Glaister sê ook (*op cit.*, bl. 547), ‚Die bewaringsinvloed van arseen op die weefsels van diegene wat met hierdie stof vergiftig is, was, ten spyte van teenoorgestelde bewerings, herhaaldelik na opgrawing waargeneem en aangeteken.'

Smith (*Forensic Medicine*, 9de ed., bl. 32) onderskei tussen akute en kroniese arseenvergiftiging en sê: ‚By dood aan akute arseenvergiftiging, mag die maag taamlik goed bewaar wees . . . maar die tempo van ontbinding van die liggaam word nie verander nie. . . . By kroniese vergiftiging . . . mag daar 'n besliste vertraging van ontbinding wees, veral as die gif in klein dosisse oor 'n lang tydperk gegee is.' Laasgenoemde is 'n moeilike argument om te volg, want arseen word voortdurend afgeskei gedurende die kroniese vorm van vergiftiging, en die hoeveelhede wat in die ingewande gevind word, is gewoonlik minder as in die geval van akute vergiftiging.

Die gesaghebbendes is imponerend. Hul menings omtrent dodelike arseenvergiftiging as 'n oorsaak van bewaring van die liggaam was sekerlik sonder voorbehoud, deur die gedugte getuie, Sir Bernard Spilsbury, gehuldig. In die welbekende Seddon-saak was Spilsbury bereid om, op grond van sy lykskouingbevindings, te erken dat die dood aan ‚epidemiese diaree' te wyte kon wees, maar hy het hierdie waarskynlikheid, weens die toestand van bewaring van die liggaam, buite rekening gelaat.[1]

'n Waardevolle Suid-Afrikaanse bydrae tot die oplossing van hierdie probleem is deur Copeman en Kamerman gemaak (*Suid-Afrikaanse Tydskrif vir Geneeskunde*, 12 Oktober 1940, bl. 379). Hulle het hul op hierdie probleem toegelê. Hulle data maak dit duidelik dat ontbinding ten spyte van dodelike arseenvergiftiging voortgaan, en dat, in die paar gevalle waar matige of goeie bewaring van die liggaam voorgekom het, die fisiese toestande van die grond, die dreinering daarvan, ens. voldoende verduideliking van wat opgemerk was, verskaf het. Hulle gevolgtrekkings was gebaseer op die studie van 35 gevalle van dodelike arseenvergiftiging oor 'n tydperk van 5 jaar. Slegs 3 van die gevalle het enigsins 'n toestand van bewaring getoon en daarvan ‚was een geval, selfs nadat

1. *The Trial of the Seddons.* Deur Filson Young, 2de ed., bl. 103. *Notable British Trials Series.* Londen: Wm. Hodge & Co. Ltd.

3 of the cases showed any state of preservation and of these, one case 'was extraordinarily well preserved, even after a year's burial. As, however, the evidence showed that before death the deceased vomited extensively, and as it is known that the cemetery in which the deceased was buried is very well drained, the cause of the preservation may well be sought elsewhere than in the presence of arsenic in the body.' It is, of course, also a matter of practical experience that bodies not dead from arsenical or other forms of poisoning may be remarkably well preserved, even for many months.

It is in the nature of things difficult to assess quantitatively the factors which influence the changes occurring after burial, e.g. the presence of the coffn, the clothing or other coverings, the depth of the burial, the drainage of the soil, access of air to the body after burial, the effect of physical contact between dead bodies in mass graves—all factors which have been the subject of an interesting survey by Mant in *Modern Trends in Forensic Medicine*, edited by Keith Simpson, 1953, p. 84, *et seq.*

The available evidence thus makes it necessary to sound a note of warning and caution about placing any reliance on the modest amount of arsenic which can be fatal as a cause of the preservation of the dead body. The views expressed by Copeman and Kamerman can be endorsed strongly. We should also bear in mind their statement that comparatively large amounts of arsenic are used in embalming, thus making it difficult to see how the amount of arsenic usually found in the organs in fatal arsenical poisoning can have any significant effect in preventing decomposition.

There seems no basis for arguing in converse that, because the body has been well preserved, this is evidence in favour of fatal arsenical poisoning. The clinical history of the case, the almost negative autopsy findings and the toxicological demonstration of arsenic in the appropriate viscera or tissues constitute the only kind of evidence upon which a medical witness should be prepared to rely.

dit 'n jaar lank begrawe was, in 'n buitengewone goeie toestand van bewaring. Aangesien die getuienis egter toon dat die oorledene voor die dood ingetree het vreeslik baie gevomeer het, en aangesien dit bekend is dat die begraafplaas, waarin die oorledende begrawe was, baie goed gedreineer is, kan die oorsaak van bewaring net sowel elders, as by die aanwesigheid van arseen in die liggaam, gesoek word.' Dit is natuurlik ook 'n kwessie van praktiese ondervinding dat liggame van persone wat nie aan arseen- of ander vorms van vergiftiging oorlede is nie, selfs vir baie maande merkwaardig goed bewaar mag bly.

Dit is uit die aard van dinge moeilik om die faktore, wat die veranderings wat na begrafnis voorkom, beinvloed, kwantitatief te beraam, b.v. die teenwoordigheid van die doodskis, die klere en ander bedekkings, die diepte van die graf, die dreinering van die grond, toegang van lug tot die liggaam na dit begrawe is, die uitwerking van fisiese kontak tussen dooie liggame in massagraftes—almal faktore wat die onderwerp was van 'n interessante oorsig deur Mant in *Modern Trends in Forensic Medicine*, geredigeer deur Keith Simpson, 1953, bl. 84, *et seq.*

Die beskikbare getuienis maak dit dus nodig om 'n waarskuwing te laat hoor om versigtig te wees om enigsins te aanvaar dat die geringe hoeveelheid arseen, wat dodelik kan wees, die dooie liggaam kan bewaar. Die menings uitgespreek deur Copeman en Kamerman kan sterk onderskryf word. Ons moet ook hulle stelling in gedagte hou dat betreklike groot hoeveelhede arseen by balseming gebruik word, en dit derhalwe moeilik is om te aanvaar dat die hoeveelheid arseen wat gewoonlik by dodelike arseenvergiftiging in die organe gevind word enige betekenisvolle uitwerking op die voorkoming van ontbinding kon hê.

Dit lyk nie of daar enige basis is nie om omgekeerd te argumenteer dat omdat die liggaam goed bewaar gebly het die getuienis ten gunste van dodelike arseenvergiftiging is. Die kliniese geskiedenis van die geval, die bykans negatiewe bevindings met lykskouing en die toksikologiese demonstrasie van arseen in die betrokke ingewande of weefsels, is die enigste soort getuienis waarop 'n mediese getuie staat behoort te maak.

SUPRACONDYLAR FRACTURES OF THE HUMERUS IN CHILDREN

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The purpose of this communication is to attempt to alleviate the lot, which can be a very harassed one indeed, of the Casualty Officer or other practitioner who is faced with the task of dealing with a supracondylar fracture of the humerus, one of the commonest elbow injuries of children and adolescents. Apart from cases with minor degrees of displacement which can be dealt with quite adequately as out-patients, an average of 2–3 patients per month who have a more severe type of injury, are admitted to this hospital.

The importance of an accurate reduction becomes evident when one considers the numbers of cases one sees with severe restriction of movements, and the cases left with cubitus valgus or varus deformity, all of which are the result of inadequate reduction. In this respect, it cannot be emphasized too strongly that the first reduction is the one most likely to succeed. Watson-Jones [1] seems to allow some latitude and mentions the need for repeated manipulations, advice to which I cannot subscribe. The reduction should be carried out as soon as possible, and before the elbow has been allowed to 'balloon out' from swelling.

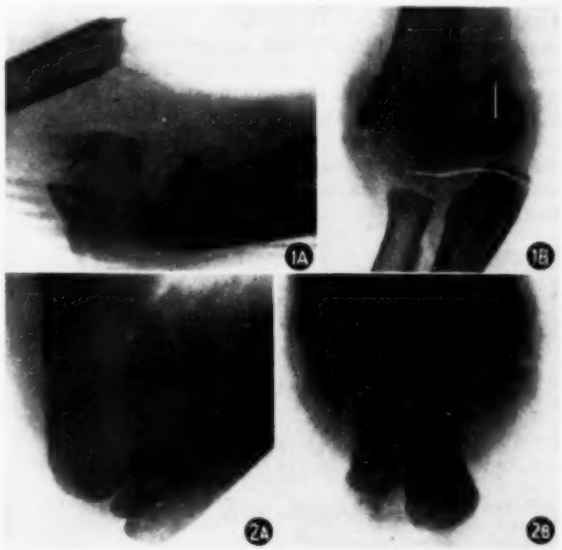
The Reduction. It is essential that, as a preliminary to the reduction, a thorough examination be made of the

involved extremity with particular reference to the vascular and neurological states of the limb. In a young patient it may be difficult to determine whether any nerve lesions are present but, with some coaxing, one can usually assess whether the nerves are intact. It may not be possible to make a satisfactory examination of the sensory state in a crying child, but any motor involvement can be determined by a few simple tests.[2] The median nerve is the one most commonly involved, and when it is damaged the examiner will observe that if the child's index finger is held firmly, the patient will be unable to flex this finger at the terminal inter-phalangeal joint. Inability to abduct the little finger will indicate ulnar nerve involvement, and the integrity of the radial nerve can be gauged by encouraging the child to dorsiflex the wrist or the fingers at the metacarpo-phalangeal joints.

The First Manoeuvre. In the manipulative reduction, the first manoeuvre aims at the correction of the lateral or medial displacement of the distal fragment. Therefore the elbow is gently extended and strong longitudinal traction is exerted while an assistant applies counter-traction on the upper arm. At the same time the lower end of the fractured humerus is grasped by the operator's other hand, and reduction of the medial or lateral displacement of the distal fragment is achieved by suitable pressure from the fingers of this hand.

The correction of the lateral or medial displacement of the distal fragment at the outset is a most important part of the whole reduction because, when the elbow is flexed during the second manoeuvre, the fragments will lock, and no pressure applied at this stage will correct with accuracy any medial or lateral displacement that still persists. In this connexion it is interesting to note that Watson-Jones[4] advises correction of the lateral displacement *after* correction of the posterior displacement. I consider this a troublesome way to manipulate the fracture, and it often leads to a disappointing result. Since I became aware of this fact, the results of manipulation have become uniformly satisfactory, many at the very first attempt of reduction.

It is necessary that the anatomy of the fracture should be envisaged when carrying out the manipulative reduction, especially with regard to the soft tissue structures. The jagged end of the upper humeral fragment frequently presents under the skin anteriorly, or it may even compound. It must be realized that this upper fragment has ruptured the periosteum on the anterior aspect of the fracture (and which, in a child, is thicker than in the adult), has penetrated the muscle mass of the brachialis and perhaps the biceps brachii and has possibly imperilled the brachial artery or the median and ulnar nerves. The degree of soft structure penetration by the upper fragment can often be judged by an examination of the soft tissues in the lateral X-ray film. In the first manoeuvre, where longitudinal traction is applied, the initial purpose (in addition to correcting the lateral or medial displacement of the distal fragment) is to try to get the distal end of the shaft of the humerus to retrace its path and fall back into the periosteal tube from which it emerged anteriorly. In some cases one can literally see the upper fragment 'fall back' with a sudden movement into its periosteal tube. In cases where this does not occur quite so easily, some gentle coaxing may succeed if the operator applies careful pressure in a backward direction over the front of the upper fragment; this coaxing, of course, is done while longitudinal traction is being applied simultaneously. Figs. 1 and 2 are from a case where this procedure was carried out. The distal end of the upper fragment was lying just under the skin. By employing



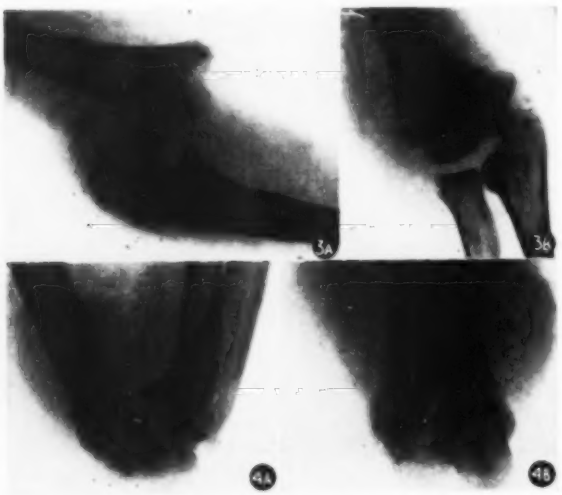
Figs. 1 and 2. By adhering to the principles of reduction as discussed in the text, a successful reduction was obtained at the very first attempt.

longitudinal traction and gentle pressure over the front of the proximal fragment, this fragment was felt to fall back into its periosteal bed with a distinct jerk, and by adopting the principles of reduction, a good reduction was obtained. Unless the operator is certain that the upper fragment is back in its periosteal tube, it is highly dangerous to proceed to the second manoeuvre, because damage to the brachial artery and the nerves will then be more than a possibility.

Where the first manoeuvre fails, the procedure to be adopted is immediate open operation and reduction. Repeated manipulations in place of operative reduction are not to be recommended because failure in this reduction definitely indicates that there is soft tissue interposition and obstruction to the reduction and that the proximal fragment has been unable to retrace its path into its periosteal tube. Figs. 3 and 4 are from a case where precisely this state of affairs occurred. Manipulation failed to reduce the proximal fragment into its periosteal tube, so that an immediate open reduction was carried out. At operation, the brachial artery was found to be stretched over the irregular distal end of the proximal fragment, which was lying just under the skin. By enlarging the rent made by the proximal fragment in the brachialis muscle in a longitudinal direction, and at the same time employing traction, the proximal fragment was reduced into the periosteal tube. A satisfactory reduction was obtained with no vascular sequelae.

The Second Manoeuvre. This aims at the correction of

the posterior displacement of the distal fragment. The method recommended by Charnley,[1] where the upper fragment is gripped with the fingers of one hand over the front of the arm and the thumb placed behind the distal fragment, while the other hand applies logitudinal traction to the forearm, has been found most suitable. Before flexion of the elbow is begun, the distal fragment is slightly hyperextended in order to appose the dorsal cortex of each fragment, and so utilize the intact soft tissue structures posteriorly as a hinge. This initial hyperextension in the second manoeuvre has been subjected to some criticism, but I have never found it to cause damage to the brachial artery or nerves provided the first manoeuvre has been executed properly. The elbow is next flexed while traction is being applied behind the distal fragment.



Figs. 3 and 4. The first manoeuvre could not be achieved successfully. An immediate open reduction was done.

When the fracture has been reduced satisfactorily, the elbow is flexed still further, and the reduction can be assessed by the position of the point of the elbow which should lie in the axis of the humerus or slightly in front of it. The reduction is confirmed radiographically by taking an antero-posterior axial view of the elbow while it is held in a flexed position, and a lateral view also with the elbow flexed. While the elbow is held flexed, the shoulder can be safely externally rotated in order to place the elbow on the casette for the lateral view. It is not necessary to screen these cases. Antero-posterior axial and lateral X-rays are usually sufficient, though screening the reduction may sometimes be necessary when dealing with unreduced cases of many days' standing.

The Maintenance of the Reduction. This depends on (a) the degree of flexion and (b) the efficiency of the immobilization.

As much flexion as is safely possible is aimed at. Flexion, as previously mentioned, locks the fragments and also utilizes the triceps spread over the flexed elbow as a splint; but, on the other hand, an excessive amount of flexion constitutes a definite danger to the blood supply of the limb because of the swelling of the elbow. Key and Conwell[3] remark: 'The degree of flexion in which to immobilize the forearm varies inversely with the swelling and must be determined by trial.' I have found that where the reduction has been satisfactory, a considerable amount of flexion is often possible and does not present much of a problem except in the cases with extremely marked swelling. Here the amount of flexion is the maximum that will not interfere with the circulation and this can only be determined by trial, i.e. by reference to the colour of the hand and the rapidity of the capillary return. An interesting fact is that the radial pulse is frequently 'knocked out' temporarily at the time of manipulation and cannot therefore be used to judge the adequacy of the circulation.

No elaborate methods of immobilization are necessary to achieve efficiency. A gauze bandage over a few layers of plaster roller wool is applied and, by carrying the turns of the bandage across the angle of the elbow joint, fixation of the elbow in the required amount of flexion is obtained. A posterior plaster of Paris slab from the middle of the upper arm to the wrist is also applied, and a collar and cuff bandage is affixed as well as a body bandage to aid immobilization of the extremity.

In the immediate after-care of the patient it is imperative that the hand be kept under constant observation. There are only a few hours between an impaired circulation and the development of a Volkmann's ischaemic contracture; the nursing staff are therefore instructed that any change in the circulation of the hand must be notified immediately.

The duration of immobilization is 4 weeks. The bandages are then all discarded, and the patient keeps the elbow in a triangular sling for a further week, after which mobilization of the joint by active exercises is encouraged. If the elbow feels unduly warm, the patient is instructed to keep the elbow immobilized for a further week in the triangular sling, or until the elbow feels sufficiently cool to permit active exercises. While the patient is wearing the triangular sling, development of the anti-gravity muscles, i.e. the biceps brachii and brachialis muscles, by frequently flexing the elbow, is encouraged, because if there is sufficient tone in the anti-gravity muscles, there is no likelihood that myositis ossificans will develop. Recovery of a full range of flexion and extension of the elbow, especially of the latter, may tax the patience of both doctor and patient, and usually takes about 4–6 months.

CONCLUSION

The reduction of a supracondylar fracture of the humerus can be fraught with many pitfalls, but by adopting the method of reduction outlined above, and by paying due regard to the pathological anatomy, a large measure of success can be attained in the handling of this fracture.

SUMMARY

1. The procedure in the handling of supracondylar fractures of the humerus in children is discussed, and the technique in the reduction of these fractures is described.

2. Emphasis is laid on the first manoeuvre of the reduction. It is more important to know where the proximal

fragment is than to rely on the textbook emphasis on the distal fragment.

3. Criticisms are levelled at Watson-Jones' insistence on the correction of the lateral displacement after the correction of the posterior displacement, and at his recommendation of repeated manipulations.

I gratefully acknowledge my thanks to Mr. Edelstein, Chief of the Orthopaedic Department, Johannesburg Hospital, for his encouragement and advice.

REFERENCES

1. Charnley, J. (1950): *The Closed Treatment of Common Fractures*, p. 58. Edinburgh: E. & S. Livingstone, Ltd.
2. Haymaker, W. and Woodhall, B. (1945): *Peripheral Nerve Injuries*, p. 47. Philadelphia: W. B. Saunders Company.
3. Key, J. A. and Conwell, H. E. (1946): *The Management of Fractures, Dislocations and Sprains*, p. 617. St. Louis: The C. V. Mosby Company.
4. Watson-Jones, R. (1946): *Fractures and Joint Injuries*, 3rd ed., p. 482. Edinburgh: E. & S. Livingstone, Ltd.

RAPID DIAGNOSIS BY FROZEN SECTIONS

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An emergency diagnosis of a clinically uncertain tumour often presents the pathologist with a difficult problem because frozen sections are subject to very definite limitations, partly due to the thickness of the section, but to a large extent to the difficulty of obtaining a good nuclear stain in the limited time available while the patient is still under the influence of the anaesthetic.

To minimize the time spent on the preparation of the section and yet produce a permanent haematoxylin-eosin stain which compares favourably with an ordinary paraffin block section, the following technique was devised which has given consistently satisfactory results in our hands.

About 10 minutes before the surgeon is ready to remove a small piece of the tumour, the freezing microtome and staining reagents are set out in the operating theatre. Preliminary preparations include the heating of the fixing solution to about 70° C, setting up a microscope and testing the CO_2 supply. A selected piece of tissue, approximately $\frac{3}{4}$ in. by $\frac{1}{2}$ in. by $\frac{1}{4}$ in. is then placed in the previously heated 20% formol saline solution for 2 minutes. The formalin solution is kept at approximately 70° C and should not be brought to boil. The block of tissue is briefly rinsed in tap water and placed on the carrier of the freezing microtome with a small quantity of syrup. A few rapid bursts of compressed CO_2 will freeze the block firmly to the carrier. Syrup solution (equal parts of 10% gum arabic and 10% cane sugar) is added to the block of tissue until the whole surface is covered and frozen hard by the gas.

The block is now trimmed by cutting a few thick sections which are discarded. By rubbing the hand over the tissue block for a few seconds the temperature of the embedded

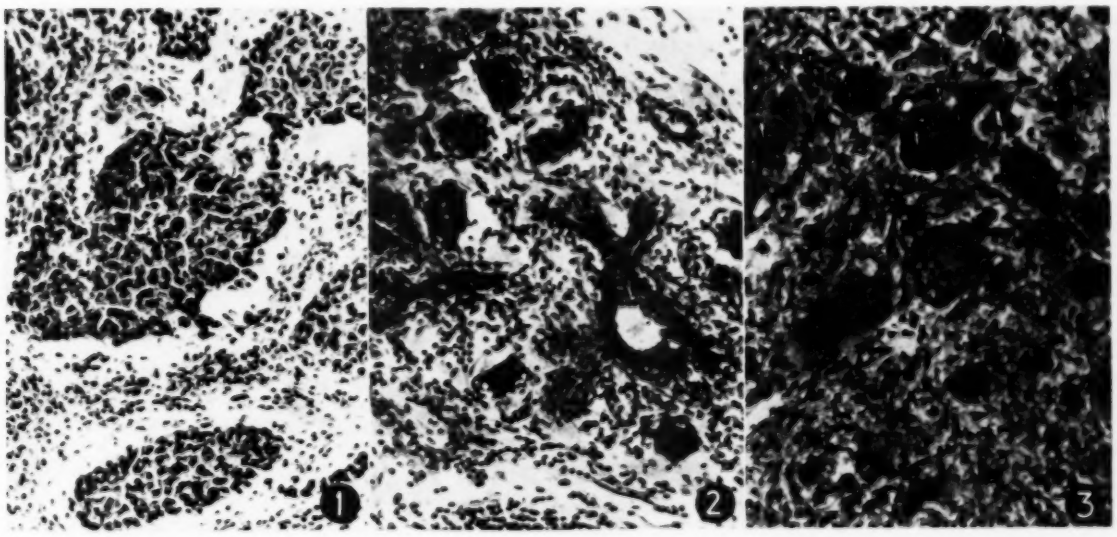

Fig. 1 illustrates a frozen section of a malignant breast tumour; Fig. 2, a frozen section of a simple fibro-adenosis of a breast, and Fig. 3, an osteoclastoma removed from the antrum.

tissue is raised slightly and about half a dozen thin sections are cut at 6-7 microns. With a little experience, the cutting can be done in a few minutes. A thin section is now mounted on an albuminized slide, gently flamed until it is dry and fixed to the slide. Sections taken from tumours containing much fat are treated for 30 seconds with benzol or xylol and allowed to dry again.

The section is then stained for 60 to 65 seconds in a modified Mayer's haemalum solution which was previously prepared according to the formula set out below. Thorough 'blueing' of the haematoxylin is achieved by treating the section with Scott's tap water substitute for about 30 seconds. For the counterstain, 1% aqueous yellowish eosin for 15 seconds has proved most satisfactory. Rapid dehydration of the section is done by dipping the slide in rectified spirits, absolute alcohol and benzol, contained in Coplin jars, followed by mounting in Canada balsam. The dehydration, clearing and mounting usually take a few minutes. The whole process can thus be performed in 9 to 10 minutes and the report issued immediately.

PREPARATION OF THE HAEMATOXLIN SOLUTION

Dissolve 2 gm. of haematoxylin powder in 1,000 c.c. distilled water. Add 0.4 gm. of sodium iodate and allow to dissolve completely. The haematoxylin is ripened artificially by the sodium iodate to haematein and it is therefore essential to weigh the sodium iodate accurately; 50 gm. of potassium alum and 50 gm. of chloral hydrate are then added and allowed to dissolve. Finally 2 gm. of crystalline citric acid are added and after thorough shaking the solution is ready for use.

This modification of Mayer's haemalum has the advantage of being potent yet selective. Nuclei are stained an intense blue in about 60 seconds, but the cytoplasm of the cells remain unstained. The solution does not deteriorate when stored.

LEFT PERINEPHRIC ACTINOMYCOMA

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The perinephric space, more particularly the left, is a rare site for Actinomycoses to gain a primary foothold. Current textbooks of pathology and surgery do not mention this site at all and extensive reviews of the South African [4] and World [13] literature do not reveal a similar case. The following case report is therefore of particular interest.

A Native male aged 29 was seen first at the Medical Out-Patient Department on 18 October 1951 with a 2-months' story of anorexia, intermittent vomiting and cramp-like pain commencing in the right lower quadrant and radiating to the left lumbar and lower quadrants. Episodes lasted about 6 hours and were associated with some degree of dysuria.

Examination on this visit revealed only some degree of guarding in the left lumbar region—with a negative urine examination.

The patient absconded after the examination but returned on 1 November 1951 with a severe exacerbation of his previous episode and, in addition, some vague story of intermittent constipation.

He looked very ill but well nourished.

Temperature, 98.6° F. *Pulse*, 80 per minute. *Blood pressure*, 130/80 mm. Hg.

The tongue was slightly dry and the breath odoriferous.

Abdomen: Slight distension with an obvious filling of the left loin. Palpation revealed a hard tender mass about 4 inches in diameter in the left loin, which shelved under the left costal margin, was ballotable into the left loin but did not move with respiration. The mass was resonant to percussion. No peritoneal irritation. Rectal examination was negative. Other systems were normal.

Special Investigations: Blood: P.C.V., 32%; White cells, 24,000 per c.mm., 80% polymorphs. No eosinophils.

Urine: no pus, no red blood corpuscles. Chemically; N.A.D.

Straight X-ray: Descending colon pushed to the right (Fig. 1, 2). Large bowel fluid levels present (Fig. 2).

Intravenous-Pyelogram: Normal—very good contrast in left kidney (Fig. 3), considering there was no abdominal pressure. Some displacement medially.

Enema: Good flatus and faeces result. Negative microscopically.

A diagnosis of a perinephric abscess was made with all his associated symptoms regarded as due to pressure effects.

Operation was performed the same day (W. S.) under Pentothal, Flaxedil, gas, oxygen and ether anaesthetic. Through a left lateral subcostal muscle-splitting incision a very hard woody mass was palpated. Incision revealed a firm tumour, in the centre of which some pus was found. The kidney, which was palpable, seemed quite unrelated and not enlarged.

Pus and a biopsy of the tissue were sent for examination. The wound was closed in separate layers leaving a tube drain to the centre of the mass.

LABORATORY REPORTS

Pus: A few small yellow granules seen.

Gram's Stain: Numerous pus cells and gram-positive filaments showing branching; the appearances were those of Actinomyces.

Ziehl-Neelsen Stain: No acid-fast bacilli.

Culture: (*Blood Agar, Serum Broth, Egg Meat Medium and McConkey's*): Growth resembling *Actinomyces israeli*.

Histology: Lining of a chronic abscess cavity and one which shows extensive infiltration by eosinophils. A colony of organisms in one section raises the possibility of a fungus infection.

Wassermann Test: Positive; *Berger Test*: Positive.

Barium Enema: The descending and sigmoid colon are within normal limits.

COURSE

Penicillin, Streptomycin and large doses of potassium iodide were given. On this regime he improved rapidly,

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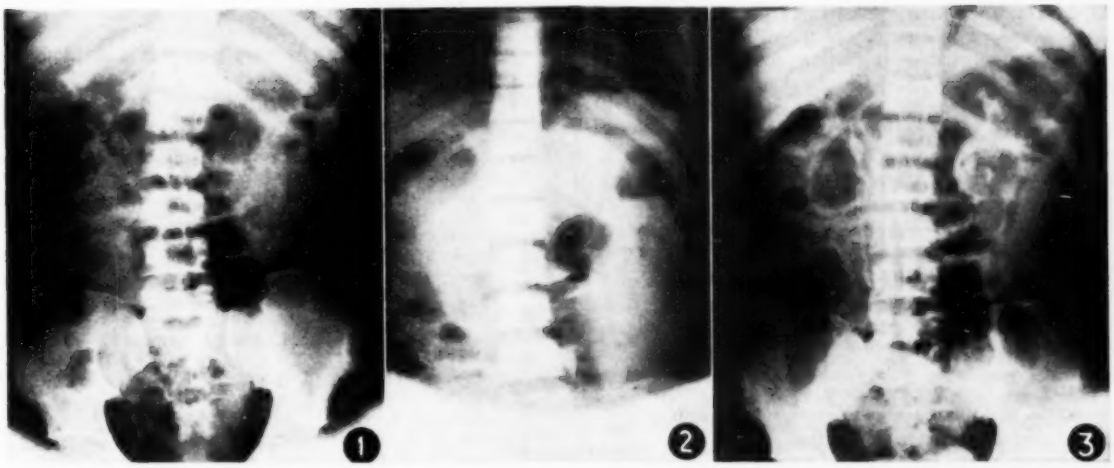

the mass became smaller, discharge ceased and the wound healed well.

29 November 1951. He developed acute peri-umbilical pain which radiated to the right iliac fossa—associated with vomiting. Temperature, 103° F. Pulse, 120 per minute. Very tender over McBurney's point. No rigidity. White cells: 16,000 per c.mm.

A diagnosis of acute appendicitis was made, but because of his actinomycoma we considered the former to be the primary source, with retroperitoneal spread to the left perinephric space. He was treated with continuous chemotherapy and the condition subsided very rapidly. He was discharged on 8 December 1951 and was seen at intervals after this. The mass disappeared completely with no residual sinuses present.

18 August 1952. He was well until 24 hours before admission when he developed severe, generalized abdominal pain, radiating to the right iliac fossa associated with marked vomiting. Temperature, 99° F. Pulse, 90 per minute. He was very ill.

Abdomen: Very tender over McBurney's point with marked guarding in right lower quadrant. No mass palpable.

Haemoglobin: 14.5%.

White Cell Count: 19,800 per c.mm.

A diagnosis was made of acute appendicitis with Actinomycoses as the causative organism.

Operation: A retrocaecal acute appendix with local peritonitis was found.

LABORATORY EXAMINATION

Pus: Very numerous pus cells, numerous Gram-positive cocci and diphtheroids. No branching filaments were seen.
Culture: Heavy growth of aerobacteria. No Actinomyces.
Pathology: Haemorrhagic infected appendix 4. x 2.5 x 1.5 cm. Appearances do not suggest Actinomyces.
Histology: Acute suppurative appendicitis. No histological evidence of Actinomyces.

He was discharged fit on 2 September 1952.

One can then consider this case to be a left primary perinephric actinomycoma with a permanent cure on chemotherapy.

DISCUSSION

By definition, a primary actinomycoma should be used for those cases of Actinomyces in which the history of the illness and the physical examination of the patient fail to establish the existence of an older actinomycotic infection.[14] It is true too, however, that although no actinomycotic focus of infection capable of dissemination is found, it cannot be proved that there was not at some earlier time a lesion in some other part of the body which healed spontaneously.[13]

The following primary sources could possibly produce a perinephric actinomycoma.

1. *Appendix.* Two factors could be conducive to its relatively frequent occurrence in appendix and large intestine: (i) Stasis; (ii) The common presence of mucosal imperfections.

The appendix provides a comfortable home and at the same time offers a chance of escape so that perforative appendicitis is by far the commonest precursor to abdominal actinomycosis.[9] The lesion may extend by contiguity and continuity[15] downward into the pelvis, backwards along the psoas and upwards towards the kidney and medially forwards up the vertebral column.

It is interesting that this fungus does not cause peritonitis although it might perforate the wall of the gastro-intestinal tract and give rise to actinomycotic lesions elsewhere in the abdomen.[12]

There are reports of right perinephric infection secondary to appendicular actinomycotic infection[5] even 2 years after peri-appendicular abscess formation[15] but there are no reports of a left perinephric actinomycoma in the literature.

2. *Colon and Rectum.* Despite the fact that the organism is a common inhabitant of the colon and rectum and that the latter is the site of multiple trauma[8] it occurs so seldom in these sites that no surgeon is likely in a lifetime to see more than a few cases.[8, 9, 11]

There are no truly characteristic symptoms.

There were no left perinephric lesions reported in association with 40 colonic rectal actinomycotic infections.[10, 11]

3. *Kidney.* Renal actinomycotic infection is a rare and

fatal disease; 13 primary renal cases were reported in one series.[5] Bruwer,[3] in a survey of the disease, does not even mention actinomycotic infection of the kidneys or perinephric spaces. Some believe that there are no primary cases of renal actinomycosis—most are either haematogenous or metastatic from primary lesions in the lungs, liver or intestine. It is, therefore, difficult to ascertain accurately the exact number of cases of actinomycosis of the kidney.[2] Renal actinomycotic infection in a form of a chronic carbuncle may perforate to form a perinephric abscess.[1] General features are those of an encapsulated infection:

1. *Local tenderness and swelling.*
2. *Renal fixation and obliteration of the psoas.*
3. *X-ray evidence of renal and associated perinephric involvement.*

Usually all these cases have associated calculi.[6] The pyelograms may, however, be essentially normal.

4. *Sulphur granules in the urine.*

Perinephric space involvement from the kidney infection has been reported but only on the right side.[1, 2, 8]

Spontaneous healing of a renal lesion is unknown and if the kidney is not removed surgically early, the disease is ultimately fatal,[1, 14] in spite of all therapy.

Cope states that it is a safe rule, because actinomycosis may occur in the most unlikely situations and under various guises, always to consider it when dealing with any chronic lesion, whether apparently inflammatory or neoplastic.[7]

SUMMARY

1. A rare case of left primary perinephric actinomycoma is reported with complete cure.
2. Sources of infection are discussed briefly.

I wish to thank the Medical Superintendent of Groote Schuur Hospital for allowing publication of this case, Mr. McManus for the photographs and Miss Webster for typing this report.

REFERENCES

1. Baron, E. and Arduino, L. J. (1949): J. Urol., **62,** 410.
2. Brown, H. W. and Hadbarny, L. T. (1950): Urol. Cutan. Rev., **54,** 79.
3. Bruwer, A. (1946): Clin. Proc., **5,** 59.
4. Buchanan, G. Lurie, H. and Roux, P. (1948): S. Afr. Med. J., **22,** 493.
5. Campbell, D. A. and Bradford, B. (1948): Arch. Surg., **57,** 202.
6. Cohen, D. L. (1943): J. Urol., **50,** 29.
7. Cope, Z. V. (1915): Brit. J. Surg., **3,** 55.
8. Cope, Z. V. (1949): Ann. Roy. Coll. Surg., **5,** 394.
9. Cope, Z. V. (1949): Brit. Med. J., **2,** 1311.
10. Cope, Z. V. (1949): Proc. Roy. Soc. Med., **42,** 763.
11. Cope, Z. V. (1949): J. Internat. Coll. Surg., **12,** 401.
12. Forris, E. M. and Douglas, R. V. (1947): Arch. Surg., **54,** 4.
13. Gardiner, S. and Welch, D. (1943): Austr. New Z. J. Surg., **12,** 207.
14. Kahle, P. J. and Hellinger, G. T. (1949): Urol. Cutan. Rev., **53,** 720.
15. Whisenand, J. M. and Moore, E. V. (1951): California Med. J., **74,** 133.

THE INTERNAL ANAL SPHINCTER:

ITS SURGICAL IMPORTANCE

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One of the main problems of anal canal surgery is acute and chronic spasm of the sphincter muscle. As in all other regions, rest is of paramount importance to allow smooth healing, but is prevented by spasm. The severe post-operative pain of haemorrhoidectomy is due to excessive spasm, and the all-too-frequent stenosis, following a normally executed radical operation, is often of the same origin. The acute fissure is maintained by spasm and, if persistent, a chronic fissure becomes established on account of the irreversible chronic spastic state of the anal sphincter. The stenosed senile anal canal, known as senile stenosis or anal contraction, is a chronic spastic condition of the anal canal. Hitherto relaxation, or anal rest, has been achieved by over-stretching or divulsion of the anal sphincter, or by injecting long-lasting anaesthetic solutions. Both these methods have fallen far short of their requirements. In the established stenosis, external sphincterotomy with stretching of the sphincters is the method of choice. This too, is an unsatisfactory operation. A new approach to this subject, dealing with the internal anal sphincter is presented.

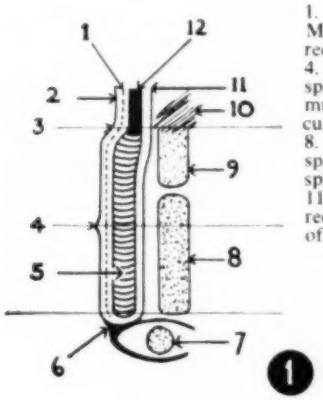
THE INTERNAL ANAL SPHINCTER

The internal sphincter plays a leading ro'e in the normal functioning of the anal canal. It is a pronounced thickening and continuation of the circular muscle coat of the rectum, and is composed of unstriated smooth muscle which exhibits continuous involuntary postural tone. It is about one inch long and about 2–4 mm. thick, extending from the commencement of the anal canal at the ano-rectal line to the exit, at the anal inter-muscular septum. The pectinate or dentate line is situated at its half-way point (Fig. 1).

The posture of the closed anal canal is continuously maintained by the tonic contraction of the 3 components of the external sphincter together with the internal sphincter and the pubo-rectalis. The fibro-muscular longitudinal muscle, the continuation of the taenia coli, has a fixed supportive action.

The strength of the anal musculature varies considerably. In some subjects it is only with great difficulty that instrumentation can be performed. In others the sphincter

muscles are weak and atonic. They offer little or no resistance to the examining finger or instrument. On withdrawal, the anal canal gapes before slowly closing, and yet perfect continence exists.



1. Submucous layer. 2. Mucous membrane of rectum. 3. Ano-rectal line. 4. Dentate line. 5. Internal sphincter. 6. Anal intermuscular septum. 7. Subcutaneous external sphincter. 8. Superficial external sphincter. 9. Deep external sphincter. 10. Pubo-rectalis. 11. Longitudinal muscle of rectum. 12. Circular muscle of rectum.

Fig. 1. Diagram of transverse section of the anal canal on the scheme of Morgan and Milligan.

The postural tone of the combined sphincter muscles maintains closure of the anal canal. The internal sphincter co-operates in this action, but functions best with moderate or even low tone.

Adequate relaxation and full dilatation is the most important function of the internal sphincter. The degree of permissible dilatation of the anal canal is absolutely controlled by this muscle, since it is the innermost sleeve of the anal tube.

The internal sphincter possesses the inherent character of the involuntary smooth circular muscle of the alimentary tract, viz. liability to spasm. This appears to be greatest at the exit of the tract because of the many abnormal irritative influences to which it is exposed, both pathological and surgical. The remainder of the sphincter component musculature, being striated voluntary muscle, reacts but little to the foreign stimuli. The voluntary group lies well away from the inner aspect of the anal canal, being protected by the internal sphincter and the longitudinal muscle which acts as a fibro-muscular sheath or fascial plane.

It is thus postulated that so-called spasm of the anal sphincter, whether acute or chronic, is for practical purposes confined to the involuntary smooth internal sphincter muscle. This spasm, if persistent, leads to organic structural changes of a fibrotic nature, which gives rise to a state of established or permanent contracture. The anal canal is then unable to relax and dilate sufficiently to extrude a full faecal mass. The muscle now impedes evacuation and abnormal straining ensues. Chronic resistant constipation thus follows. In the later stages the inner lining of the anal canal undergoes changes. The mucous membrane becomes rigid and fixed, allowing a tear or fissure to develop, generally at the weak mid-posterior site, just internal to the anal verge over the outer edge of the internal sphincter.

CHRONIC INTERNAL ANAL (SPHINCTERIC) CONTRACTURE

This term, referred to in a previous paper,[2] has been used to describe the established structural organic change in the internal sphincter following chronic persistent spasm. Clinically this condition is best demonstrated in the case of senile stenosis or anal contraction. The internal sphincter, at its lower free rolled border, tends to obstruct the examining finger and feels like a tightly closed hard rubber ring. In well-marked cases, if lateral traction or stretch is applied, especially under anaesthesia, it gives the impression of a circle of very stout cord, tied at this level, completely limiting the expansibility of the canal. The same amount of resistance, while present throughout the length of the internal sphincter, i.e. the whole length of the anal canal, is naturally most prominent at its lower free border. In severe cases the muscle feels board-like or rocky hard to the examining finger. On operative exposure the muscle fibres appear strangely white in contrast, the individual fibres showing clearly. When the contracture, as in these cases, is well developed, the muscle strands or fibres, on incision, impart a fibrous or even gritty sensation. It is thus apparent that any determined effort at mechanical dilatation must require extreme force and result in gross rupture of the internal sphincter.

SURGICAL APPLICATION

The internal sphincter has long maintained surgical immunity, because it has been accepted that its complete division will give rise to anal incontinence. This theory has also been helped by the failure to realize that a tightly postured internal sphincter is disadvantageous. People with moderate or even low postural sphincter tone have less chance of developing anal pathology.

The internal sphincter is the inner sleeve of the double-lined muscular tube of the anal canal. If the longitudinal muscle layer, which is a fibro-muscular fascial sheath, is considered, then a treble-lined tube exists. The internal sphincter is, as it were, splinted by the longitudinal muscle sheath and the voluntary group of striated muscles lying outside it. The superior entrance to the anal canal is strongly supported by the pubo-rectalis, which forms a muscular sling and causes the rectal shelf at the ano-rectal line by angulating the rectum forwards. In the cadaver, the internal sphincter, when cleared superficially of its mucous membrane, can be dissected up bluntly from its lower free border and rolled upwards till it is hinged on the circular muscle of the rectum above. The rectal shelf and ano-rectal line are in no way interfered with by this procedure.

The internal sphincter, when completely divided, has little room for retraction because of the closely confined and splinted space. If a normal internal sphincter is divided, no post-operative spasm can occur and, when healing is completed, the anatomical variation is infinitesimal. If a contractured fibrotic muscle is divided, the initial separation is far greater and on healing, the area is definable, allowing the restoration of normal expansibility and dilatation. *'The slender subcutaneous external sphincter must be carefully preserved'*, as it guards against a patulous or gaping anal verge.

INTERNAL ANAL SPHINCTEROTOMY

This term has been applied to the operation of linear division of the internal sphincter as previously described.[2] The left lateral mid-point is the site of choice, the ano-rectal shelf being absent. The anal and rectal walls are in the same plane. Posterior incisions may tend to gutter and leave a mucous leak. The smooth run-in is interfered with by the ano-rectal shelf. Lateral wounds heal more rapidly whereas a posterior mid-line wound may be delayed and the scar is weaker. Wounds in the posterior mid-line appear to be more sensitive and painful.

The most instructive case to operate on is that of advanced senile anal stenosis or contraction. In this case the anal canal, although fully anaesthetized, barely admits the index finger. The internal sphincter feels board-like and rigid, the lower free border being like a stout cord. After exposure of the muscle, the striking white fibres, densely packed, impart a fibrous or even gritty sensation to the knife and spring apart when divided. When the division is completed, the pinkish-white longitudinal muscle, resembling a fibro-muscular fascial sheath, bulges into the wound. On introduction of a finger into the canal, it feels as if it has collapsed, and total surgical incontinence has been created. An over-sized dilator may now be introduced with finger tip pressure. This free dilatation is only possible after complete division of the internal sphincter. This proves that the internal sphincter alone is at fault because the remainder of the anal musculature, being fully anaesthetized, is completely flaccid and free of any pathological contraction. The surgical correction is now complete. Normal expansibility and dilatation follow with satisfactory postural sphincter tone.

The Operation of Internal Anal Sphincterotomy. The Sims left lateral or the lithotomy position is adopted; 2% Novutox

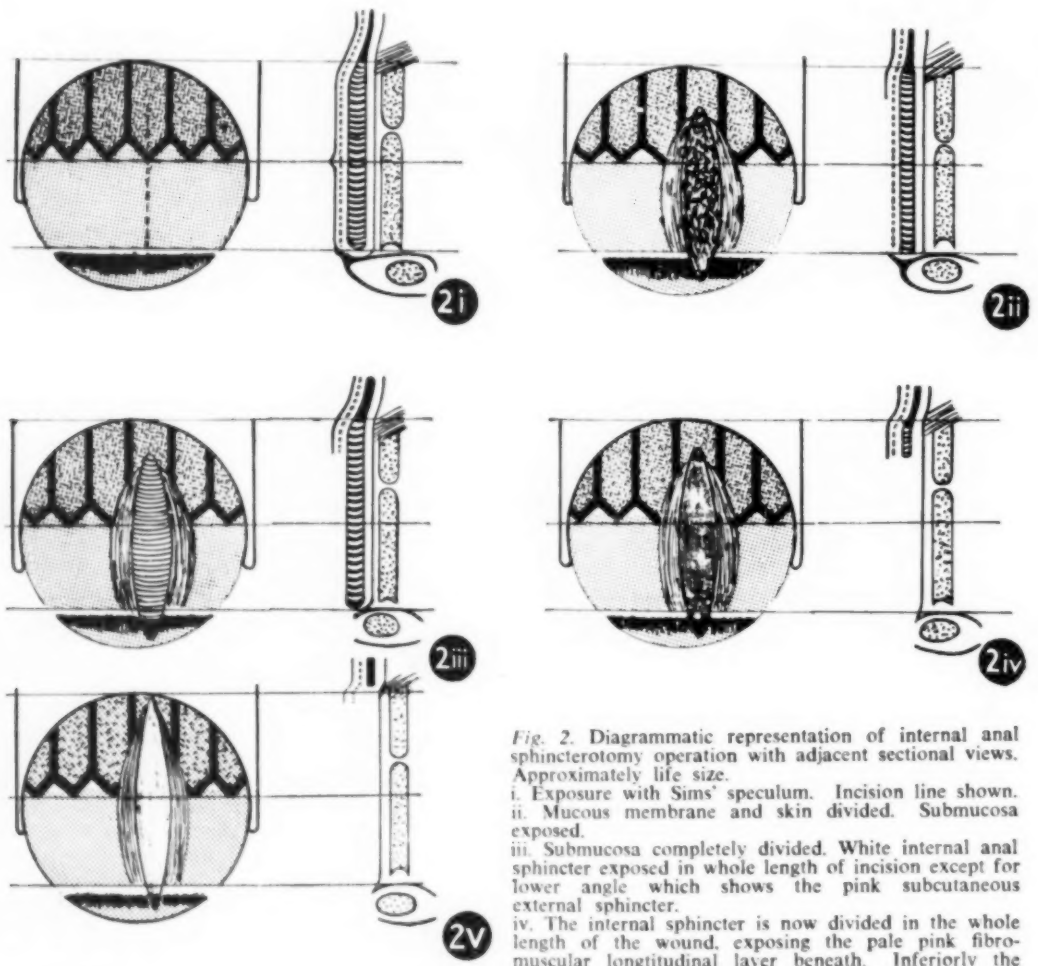


Fig. 2. Diagrammatic representation of internal anal sphincterotomy operation with adjacent sectional views. Approximately life size.
i. Exposure with Sims' speculum. Incision line shown.
ii. Mucous membrane and skin divided. Submucosa exposed.
iii. Submucosa completely divided. White internal anal sphincter exposed in whole length of incision except for lower angle which shows the pink subcutaneous external sphincter.
iv. The internal sphincter is now divided in the whole length of the wound, exposing the pale pink fibro-muscular longtitudinal layer beneath. Inferiorly the undivided subcutaneous external sphincter is seen. Superiorly the edge of the divided internal sphincter is visible.
v. The High Operation. The internal sphincter is completely divided, the division extending into the circular muscle of the rectum.

local anaesthetic solution has been used throughout this series for local infiltration. This solution possesses antiseptic properties and has never given rise to any local infection.

Where general anaesthesia is preferred by the patient, pentothal, with or without gas and oxygen, is combined with the local anaesthetic. The most valuable effect of the local anaesthetic is to control operative haemorrhage and allow a clear field. The anaesthetic solution is introduced in a modified Gabriel technique.[3]

Exposure is obtained by introducing into the anal canal the largest size single-ended Sims speculum which can be admitted. 2% Novutox is then injected submucosally along the left lateral mid-axial line from ½-inch above the dentate line to the anal verge over the subcutaneous external sphincter. This permits subsequent haemostasis. A straight incision is made in this line, parallel with the long axis of the canal. The incision commences ¼-inch above the dentate line, between 2 rectal columns and continues between the 2 corresponding anal papillae and then through the crypt. This is a comparatively bloodless line. The incision is extended outwards to the outer edge of the subcutaneous external sphincter. This incision is about 1 inch long and exposes the subcutaneous tissue throughout its length. The edges gape in an oval wound. Digital palpation defines the taut bow-like lower border of the internal sphincter, with the sulcus of the anal intermuscular septum below, separating the internal sphincter from the subcutaneous external sphincter. The submucous venous areolar tissue is then divided in the same straight line, until the internal sphincter becomes visible in its lower portion. It is strikingly recognizable by its closely banded white transverse fibres. The comparatively superficial subcutaneous external sphincter is exposed below the internal sphincter at the outer angle of the wound. The external muscle has a pink fleshy homogeneous appearance. 'It is to be carefully defined to avoid injury.' The white internal sphincter is now exposed throughout the length of the wound by further gentle knife dissection (Fig 2).

Constant minor haemorrhage is encountered at the dentate line in the submucous tissue; gauze pressure with a haemostatic controls it. The internal sphincter is then divided from above down with the scalpel. In a case of chronic internal anal contracture, the fibres have a fibrous, or even gritty feel as they are incised and spring apart. The muscle division is first completed in its lower part, where it is more prominent. The division is complete when the pale pink longitudinal muscle fascial sheath appears in the floor of the wound. This is a very distinct sheet and has the appearance of a fascial plane. It exhibits no longitudinal markings. It tends to bulge into the wound. The internal sphincter division is then completed in the remainder of the exposure. Small blunt-ended curved scissors are used to divide its upper portion, the last ½ inch being done submucosally. At least ⅞ of the internal sphincter is divided and in the pronounced contractures the division is extended to the circular muscle of the rectum.

The anal canal is now relaxed and offers little resistance, allowing free dilatation.

The skin edges of the wound only need trimming if they are unduly redundant.

INDICATIONS FOR INTERNAL ANAL SPHINCTEROTOMY

1. *Senile Stenosis, Anal Contraction or Spasmodic Stricture.* These cases belong to the condition described as chronic internal anal (sphincteric) contracture. The only physiological operation for this abnormality is internal anal sphincterotomy. The muscle must be completely divided, the division extending to the circular muscle of the rectum. This is referred to in the diagrammatic representation as the high operation.

2. *Post-Operative Stenosis.* Where excessive mucosa has been removed or undue infection has resulted, the prolonged irritation and spasm of the internal sphincter causes organic contractural changes in the muscle. Here again this operation offers the best procedure for the correction. In rare cases it may necessitate a combined plastic repair.

3. *Congenital Stenosis.* Babies born with any degree of imperforate anus present a stricture at the pectinate line, due to imperfect disappearance of the proctodeal membrane. Incision of the fibrous band only is usually insufficient to overcome the stricture. Partial division of the internal sphincter is often a necessary combination.

4. *Chronic Anal Fissure.* In this condition there is always a degree of chronic internal anal contracture present. In some it is advanced. The acute fissure only becomes chronically established when the spastic internal sphincter undergoes structural organic changes. '*The base of the chronic fissure is formed by the lower inner surface of the internal sphincter and not, as often stated, by the subcutaneous external sphincter.*' This muscle lies distal and lateral to the fissure base and is separated from it by the anal intermuscular septum. The lower white transverse fibres of the internal sphincter are clearly seen in the base of the fissure when the edges are separated.

For the chronic fissure, a lateral sphincterotomy with free dilatation is performed. The fissure is then excised superficially by removing the sentinel pile, the skin edges of the fissure, the over-hanging hypertrophied papilla and the central crypts. This wound is kept moderately small to lessen post-operative discomfort. The majority of these operations are performed in the office surgery, with ambulant follow-up.

5. *Haemorrhoids with or without a Chronic Fissure where Contracture of the Sphincter is Present.* The sphincter division is performed after the completion of the ligature and excision of the piles in a left lateral plane.

6. *Uncomplicated Haemorrhoids.* The operation is done as a routine in all haemorrhoid operations to eliminate post-operative spasm and its consequent pain. The relaxation thus permitted allows smooth healing, prevents stenosis, and defaecation becomes free from strain. The avoidance of strain diminished the possibility of post-operative haemorrhage.

Where plastic procedures are combined with the haemorrhoidectomy, the post-operative relaxation is a valuable contribution to the success of the operation.

7. *Ano-Rectal Abscess.* There is the type of high ano-rectal abscess that is associated with a long-standing semi-healed posterior mid-line fissure cicatrix. The fissure is quiescent. The infection, due to an infected marginal tear of the cicatrix, enters at the lower deep border of the internal sphincter, between it and the longitudinal fibro-muscular sheath. The ensuing abscess points above the ano-rectal line in the non-resistant area deep to the circular muscle of the rectum and still bounded externally by the longitudinal muscle. These posterior abscesses are extremely painful and associated with a high temperature. In the early stages no outward swelling is seen. They are generally diagnosed as a submucous abscess. The pus can be released by passing a director deep to the lower border of the internal sphincter, upwards into the main abscess cavity. A cure is effected by dividing the whole internal sphincter and extending the division to the circular muscle of the rectum over the roof of the main abscess. No outward drainage is necessary.

8. *Low-Lying Intra-Rectal Tumours.* The operation will facilitate free access *per anum* to deal surgically with a tumour such as a villous papilloma, or large sessile adenoma.

9. *Internal Sphincter Constipation.* The patient complains of difficulty of commencing the act of defaecation. Once the head of the stool has passed, the remainder follows satisfactorily. Many people resort to introducing a finger into the anus or applying digital vaginal pressure to help the first part of the stool to pass through and open up the sphincter. The pathology present in the sphincter is that of chronic internal anal contracture which interferes with the ability to relax and open up the muscle.

PECTEN BAND RELATIONSHIP TO THE INTERNAL ANAL SPHINCTER

Miles [4] described the pecten band and Abel [1] elaborated on this subject. Spiesman [6] reviewed and investigated this subject very extensively. His conclusions of the origin of this band are the most advanced. He finds that the band is a fibro-muscular structure. The muscular admixture consists of smooth muscle fibres derived from the terminal branches of the longitudinal muscle, or possibly extensions of the muscularis mucosa of the rectum.

My own conclusions are based on careful dissections performed on subjects with well developed chronic internal anal contractures. Clinically Miles' pecten band is well developed and corresponds precisely and anatomically with the free lower border of the internal anal sphincter. Dissection of large numbers of these cases, under local anaesthesia, which allows a clear and clean operative field, has never shown any submucous adventitious fibrous tissue deposit. The structure which Miles describes as the pecten band is as distinctly palpable after complete exposure of the internal sphincter, as before the division of the covering tissues of the muscle, and corresponds accurately to the lower free border of the internal sphincter. This is a simple and indisputable anatomical demonstration. Miles' description of the pearly white transverse fibres of the pecten band is as true of the internal sphincter fibres. This misunderstanding of the true nature of the pecten band was due to the fact that the contractured internal sphincter has all the appearances and features of fibrous tissue, and also to the fact that the minute anatomy of the anal canal, as described by Milligan and Morgan, was not fully appreciated. This investigation has left the author in no doubt about the true nature of the pecten band, and the fact that this band is none other than the lower free border of the internal sphincter which has undergone the changes described as chronic internal anal contracture.

CONCLUSIONS

Over 400 operations of internal anal sphincterotomy have been performed since 1945 for the previously mentioned indications.

The surgery of the anal canal is definitely simplified by the free approach to the internal anal sphincter as advocated by the author.

From the academic aspect, it allows improved surgical teaching, as strict anatomical features are introduced. The understanding of the surgical significance of the internal sphincter must lead to a better anatomical approach to the surgery of the anal canal.

REFERENCES

1. Abel, A. L. (1932): Lancet, **1**, 714.
2. Eisenhammer, S. (1951): S. Afr. Med. J., **25**, 486.
3. Gabriel, W. G. (1948): *The Principles and Practice of Rectal Surgery*, p. 56. London: H. K. Lewis and Co., Ltd.
4. Miles, W. E. (1918): Surg. Gynec. Obstet., **29**, 497.
5. Milligan, E. T. C. and Morgan, Naunton, C. (1934): Lancet, **2**, 1150, 1213.
6. Spiesman, M. G. (1948): Review Gastroenterol., **15**, 667.

ASSOCIATION NEWS : VERENIGINGSNUUS

CAPE WESTERN BRANCH : VALEDICTORY ADDRESS BY DR. L. BLUMBERG *

Gentlemen: My term of office as President of this Branch has now come to an end, and when I have handed over the insignia of my office to my successor Mr. Forsyth, to-night, I shall have performed my last function as President. No! That is not strictly true. I still have to deliver my valedictory address, the thought of which has lain like a black pall over my spirit for the last couple of months. Give me a class of fledgling doctors or embryo nurses, and I can lay down the law in the most approved style; but this evening, looking round at this distinguished gathering of friends and colleagues, I must confess to some slight clonic contractions of the lower extremities, and a marked anorexia, which I personally should diagnose as sheer fright.

Before I go any further, I want you all to know that I am indeed very sensible of the honour you have done me, in having elected me to the Presidency of this Branch. More especially when I think back on my predecessors through the years, men cast in no ordinary mould, who have made medical history in our country, and whose names have become household words, not only in South Africa, but in some cases, far beyond our borders: C. F. K. Murray; Sir Edmund Stevenson; E. B. Fuller; Hugh Smith; H. A. Moffat; D. P. Marais; Karl Bremer; Dr. Simpson Wells; Professor Campbell and Dr. Alan Sichel—just to mention a few names at random. Please believe me when I say that I am very proud to have this distinguished company; and thank you all for having made it possible.

For the last week or two, my mind has been jumping about, like a squirrel in a cage, wondering what on earth I was going to say to you to-night. Because last occasions are always special occasions, for that reason I felt that something special was expected of me. But what? Had I been a Lister, or a Madame Curie, it would have been simple. But on rummaging round in the store-room of my past, I am inclined to think that my only practical achievement of note, consists in having survived 30 years of General Practice, comparatively sound in wind and limb! Thirty years of blood and sweat and deep despair, but glowing with the mystic light of the new-born radium, in that darkened shed in Paris, half a century ago, there have been rare moments of overwhelming fulfilment, that make one feel nearer to the gods than to man.

We have all experienced this, at one time or another, and have emerged, purged of discontent, with ever-strengthened purpose and devotion to our Liege Lord and Slave-Driver, the God of Medicine. No sacrifice is great enough to lay in homage at his shrine; no achievement worthy, until it has reached the ultimate truth. That is the romance of medicine, the eternal search for the unattainable, and its ageless, timeless fascination. And the remembrance of these rare moments makes me say to-night (after a quarter of a century of periodic railing and cursing at my chosen profession): 'I would rather be a doctor, than anything else in the world'.

* Address delivered at the Annual General Meeting on Friday, 30 January 1953.

I hope that not too many of you know this old story, hoary with years and weak with repetition: I am rather fond of it. An old soldier lay dying, the doctors had done all they could, and now the army chaplain was seated beside his bed, trying to bring him some spiritual comfort. 'Is there anything you feel you would like to talk to me about, my man?' he asked. 'Yes padre', gasped the old boy eagerly, 'let's talk about women'. And I, too, propose to devote these few dying moments of my presidential existence to the subject nearest to my heart. So with your permission, Gentlemen, 'Let's talk about Doctors!'

I believe, whole-heartedly, that no way of life, past, present and possibly future, can offer a man more complete satisfaction of achievement, or more spiritual and intellectual stimulus, than the study and practice of medicine. From the first moment one enters Medical School, full of high ideals and morbid curiosity, until the day the number of the *Medical Journal* appears, with a long over-due appreciation of one's person and achievements, tastefully bordered in deepest black, of course, every hour brings with it its own challenge, or its own enrichment.

For a doctor's life is not set to a fixed pattern, nor has his work any of that soul-deadening, automatic repetition that so often corrodes the very spring of joy in those whose daily lives are devoted to inanimate things. Our daily traffic is with human beings; unpredictable and full of surprises, and, in consequence, a source of never-ending interest. Each time one knocks on the door of a sickroom, one is filled with all the excited anticipation that the unknown brings with it. What lies behind that wooden screen? Have we charted the right course, and is land in sight, at last? Or will we find a fresh challenge, to pit our strength against the warring forces of nature? This is adventure. This is the life of a doctor.

Granted that the effort and the sacrifices involved are great; but the reward is out of all proportion. For the currency of our remuneration does not consist in grimy, germ-laden scraps of paper, of purely apocryphal worth. We are paid in the grateful release from pain, or even in the re-creation of life itself. And who amongst us has the temerity to attempt to assess that in terms of pounds, shillings and pence?

I fear that some of my younger colleagues may be growing restless at this point, and thinking, 'O! Lord! Now the old man is going to give us a pi-jaw'. I suppose I am, actually. But, in alleviation, I promise to be brief, if you will allow me one short canter on my hobby-horse.

As you know, it was Hippocrates who said: 'Where there is love of man, there is also love of the art (of medicine).' And these words should be deeply engraven on all our hearts, for two thousand four hundred years have served only to underline their unassailable truth. 'Love of man' is a composite emotion, made up of infinite patience, interest, loving-kindness and the selfless desire to help and serve—all essential qualities of a doctor in the truest sense of the word. Knowledge alone, however profound, is not enough. For the relationship between doctor and patient, that intangible, invisible tie, composed of unreserved trust on the one hand and trained, disciplined understanding on the other, often far outweighs the most impressive academic honours.

But during the last few years, I have noticed a disquieting trend, that seems to have crept into medicine, to a very noticeable extent. I must admit that it is causing me grave concern: For the sake of brevity, let me call it the spirit of commercialization. I am neither naive, nor impractical enough, to underestimate the importance or, indeed, the necessity, of earning sufficient money, to ensure a fitting standard of living both for oneself and one's family. But in our profession, money should be the by-product of our work, and not its main object. Believe me when I say that, if any one of you expects it to be otherwise, he is doomed to failure and frustration. For as a money-making machine, 'the art of medicine' is inefficient to the highest degree of Heath-Robinsonian absurdity; while those of you, cynical enough to look upon their fellow-beings purely as a means to an end, have condemned themselves, I fear, to a life of almost insupportable drudgery.

I am not suggesting that young practitioers are more mercenary than we used to be, or less devoted to medicine. They are the victims of the age in which we live. The tempo of life has increased to such an extent, that the period of potential usefulness has shrunk alarmingly; or so it seems. And it is only human nature to want to make as much hay as possible, while the going's good, if I may mix a metaphor. Nevertheless, if that is the policy you are going to pursue, I prophesy that there will be many sleepless nights in the years to come, when you will toss from side to side, wondering whether you have done justice to yourselves and those who have entrusted their lives to your care.

Other factors are also at work, to estrange you from all but impersonal contacts with your patients: The soullessness of mass treatment; the regimentation in the clinics, and the ever-increasing army of specialists, that progress, of necessity, has brought in its wake.

No one is more conscious that I am of the enormous debt that both patients and doctors owe to our consultants, and of their irreplaceable importance in the medical scheme. But I regret the fact that, instead of complementing the family doctor as heretofore, they now tend to replace him. This may be due to any number of causes. Perhaps a new generation of doctors has risen, unwilling or unable to take responsibility, only too eager to pass the buck. Perhaps tea-time chatter has turned the general practitioner into a second-class being, who lends far less prestige to the story of 'my kidneys' than does 'my Specialist'. But whatever the reason, the result is a certain impersonal efficiency that has taken the place of the warm, human intimacy that existed between a patient and his doctor of many years' standing.

As one of the last extant specimens of this fast-disappearing species, may I beg of you to give this matter of human relationships some serious thought; for until the mechanization of the world has progressed to a point where the human being, too, has become expendable, there will always be a very real need for that maid-of-all-work of medicine—the General Practitioner.

I hope my senior colleagues will not think it ill-mannered of me to have addressed myself exclusively to our younger friends, for a short while. But to whom else could I presume to give advice? After all, it is in their hands that the future of medicine lies. For better or for worse, we have shot our bolt; and all that remains, for me, at any rate, is words. The deeds must be theirs.

But to get back to my original theme—Doctors! There are people who say that doctors are dull dogs and socially quite beyond the pale. They do not mean this snobbishly, relegating us to our former status of barbers. No! I rather think they intend to convey that we are social lepers, to be segregated from the rest of mankind, owing to an incurable, contagious disease from which we suffer, the talking of 'shop'. I once heard a surgeon's wife, well-known in Cape Town for the excellence of her entertainments, giving a friend some advice. 'My dear', she said, 'one doctor to 4 laymen is the golden rule. Increase the proportion of doctors, and your party is doomed. Over dinner they will talk "shop", happily unconscious of their fellow guests who, after one or two vain attempts to make polite conversation, sink into resigned silence. After dinner, they will all get into a tight scrum, and talk "shop" again; and if you decide to put an end to all this nonsense by arranging a couple of tables of bridge, at the critical moment, the telephone will ring. . . .' But you all know the end of that one!

There may be some truth in all this. But so few people realize that medical 'shop' is not entirely made up of unspeakable words and unthinkable actions. Just dip into any history of medicine. Is there any other subject so comprehensive in its normal course? It embraces or at least has some contact with practically every art and science known to civilized man. And it would be practically impossible for any of us not to acquire just enough of history, literature, painting, music and the rest, to whet our appetites for more.

Dr. James Mumford, in reviewing Colonel Garrison's *Introduction to the History of Medicine*, says: 'The story of medicine is vital and inspiring, no matter from what angle you approach it. It is closely interwoven with the story of peoples, of civilization, and of the human mind. It deals with great men and small men, with philosophers, scientists, monarchs and ecclesiatics, with scoundrels and with humbugs. On the one hand, it springs from folkways, legends, credulity and superstition; on the other, from intelligence, culture, labour, valour and truth. Whatever else it is, the history of medicine is never dull'.

We all know from personal experience how true this is; and how mental horizons may become widened through a combination of interests. It was Leonardo da Vinci's anatomical drawings that first awakened my interest in the Renaissance and its paintings; and my introduction to the music of Liszt was, strange though it may sound, the direct result of my interest in poisons. One day I came across a description of the way the poisonous bite of the tarantula was treated, in the early nineteenth century. According to di Renzi, a distinguished physician of Naples, 'the only specific cure for the bite is believed to be dancing and music. The animating sound of the tune of the tarantella subdues the depressing effect of the poison'. Naturally, I was interested to hear the music that produced such extraordinary results. I bought the first record that I found in the catalogue listed under 'Tarentella' and fortunately for me, it happened to be the one by Liszt. And that was the beginning of what was to become a life-long allegiance to Liszt, and a source of never-ending pleasure.

I also found that bits and pieces of half-forgotten facts, gathered at various times in the course of medical reading, added greatly to the interest of my overseas trip last year. For they were responsible for taking me off the beaten, tourist track, on many occasions, and leading to all sorts of unexpected surprises.

I was in Sienna, that enchanting mediaeval town, in the heart of the Tuscany hills. I had seen the justly famous Cathedral, looking so absurdly 'Regency', with its black and white horizontal stripes. I had admired its precious pavements where, greater than life size, the story of the Testaments is laid out in niello, and stared in incredulous wonder at the fabled library of Pope Piccolomini. Wondering where to go next (for it was midday, and too hot to walk far) the thought came, unbidden, into my mind, that somewhere in Sienna was one of the world's oldest hospitals. And there it was; directly opposite the main door of the Cathedral. The Hospital of Santa della Scala, built at the end of the 13th Century, and still the only hospital in the town. Very little of the original building has been altered in the course of seven hundred years, though the porter assured me that the operating theatre had been slightly modernized. The two main wards—the Scala della Infermeria—are great stone halls, with vaulted, Gothic ceilings, immensely high and decorated with 15th Century frescoes, some of them by Domenico di Bartolo. The one hall is the medical ward; the other the surgical, and only distinguishable, one from the other, by the diversity of their smells. Nor is there any of this modern nonsense of men's blocks, and women's blocks. Down the centre of each ward is a succession of long linen screens, separating the women on the right from the men on the left. And modesty is served. But in spite of my irreverent frivolity at this moment, it was a very moving experience to be standing on the self-same flagstones that doctors had trod when Henry III was still on the throne of England.

Another experience that impressed me deeply was to find myself in the little anatomical theatre in the University of Padau where, in 1598, William Harvey had gone to study medicine and attend the lectures of the great anatomist Fabricius.

Padua is a small provincial town, not an hour's drive from Venice, and is famous for many things. It was the home of Saint Anthony; it has a wonderful collection of paintings by Giotto, Donatello and Mantegna, and its University was founded in 1222. Four hundred years ago it was the most famous medical school in Europe, and as you enter the courtyard you will find its walls gay with the family crests of the young men who flocked there to study.

In Harvey's day anatomy was practised in Padau in the greatest secrecy, and all precautions were taken to prevent professor and students being surprised at their nefarious occupation. The anatomy theatre, situated at the far end of the building, has wainscoting of curiously carved oak, and long curved desks, rising almost perpendicularly one above the other, forming what looks like a great, oval bowl. In the centre of the bowl stands the dissecting table, and a high narrow chair for the lecturer. By means of some mechanism, at the first sign of alarm, the portion of the floor on which the table stood sank into a deep cellar below the theatre, the body was quickly removed to some place of hiding, and the now innocent table was returned to its original position. It was not difficult to visualize Harvey, standing at his narrow desk, his dark, eager eyes concentrated in deepest interest upon the one bright spot in the dimly lighted room, where the lecturer was tracing out the structures of the body, stretched upon the table.

One of the more obvious places for any doctor to visit is, of course, Vienna. I went, only to return a helpless victim to its charm, as so many before me. Values change and centres of medical importance have shifted from place to place throughout the years. But, from a medical point of view, I think as many famous names and discoveries have come from Vienna as from anywhere in the world. From 1365, when the first medical school was founded at the University there, its achievements have stood out in illuminated capitals across the pages of medical history.

And yet is was in Vienna, of all places, that my whole-hearted allegiance to medicine faltered. True, the design of the Algemeinen Krankenhaus was a model of hospital planning. But in the Alserstrasse, just a block away, they served a *wiener schnitzl* made from calves that must have grazed only in the Elysian fields, before being cooked by the gods themselves, to the music of the blue Danube. And seated beneath the chestnut trees, high above the dreaming city, drinking the golden wine of the Kahlenberg, who cared that in the eighteenth century Leopold Auenbrugger had discovered the process of percussion of the chest? What *did* matter, was that he was the son of an innkeeper who sold this ambrosial brew.

Here in Cape Town, six thousand miles safely away from the alluring irresponsibility of Vienna, the discovery of the use of percussion assumes its proper proportion, and the story is interesting, if only as one more example of the curious fact that medicine owes so many of its important innovations to laymen.

Leopold Auenbrugger, in the intervals of studying medicine, used to help his father at the inn. His job was to find out the levels of the wines in the various casks. His father had taught him how to do this by rapping on the cask with his knuckles. A resonant sound signified air, while a dull sound showed the presence of liquid. One day, while he was working in the cellar, Auenbrugger was struck by an idea. Could one detect fluid in a man's lungs by rapping his chest, in the same fashion as he did with the barrels? He tried it out on various patients, with complete success. And diagnosis was given a new and valuable aid, through the ingenuity of a Viennese innkeeper.

I had intended to tell you a great deal more of what my wife irreverently terms my 'Witchdoctor's Odyssey', but I do not wish to overstep my allotted time. However, sentiment forbids me not to mention that I paid a brief nostalgic visit to Dublin, and Trinity College, where I spent what I still believe to be the happiest years of my life. I found much that had changed, but I think that perhaps the greatest change of all was in myself. For as I walked through the arch of the Campanile, I was no longer looking forward, into the path of the rising sun, but backwards, in retropect over the years.

And yet, had the change been so great after all? As I stood beneath the trees of College Green, with the soft Irish rain making little murmuring sounds of comfort on every side, I remembered a similar afternoon many years ago, when I had committed almost the whole of one of Sir William Osler's essays to heart, so greatly had it pleased me. And I found that I had not forgotten, after all. 'We may indeed be justly proud of our medical heritage. Schools and systems have flourished and gone . . . the philosophies of one age have become the absurdities of the next, and the foolishness of yesterday has become the wisdom of to-morrow; through the long ages which were slowly learning what we are hurrying to forget, amid all the changes and chances of twenty-five centuries, the profession has never lacked men who have lived up to the Greek ideals. They were those Galen and Aretaeus, of men of the Alexandrian and Byzantine schools, of the best of the Arabians, of the men of the Renaissance, and they are ours to-day'.

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Rhodesia Railways

VACANCY: MEDICAL OFFICER

Applications are invited from registered medical practitioners for the post of Railway Medical Officer on the Construction Works, Bannockburn–Pafuri Extension, as soon as possible. (Bannockburn is some 15 miles from Shabani and Pafuri is on the Southern Rhodesia–Portuguese East Africa border.)

Salary: £1,500 per annum (inclusive of all allowances). Motor transport provided. Free unfurnished house provided. The duties will consist of providing medical attention to Railway employees and their dependants (European and African) and to the employees of Railway Contractors and their dependants engaged on construction work. The appointment is a temporary post for a minimum period of one year. Further information will be supplied to suitable applicants.

Applications, stating age, qualifications, previous experience, birth place, civil status, nationality, copies of recent testimonials and stating earliest date possible for commencement of duties, should be forwarded immediately to: The Chief Medical Officer, Rhodesia Railways, P.O. Box 792, Bulawayo, S.R.

(G.M. 711)

Provincial Administration of the Cape of Good Hope

HOSPITALS DEPARTMENT

VACANCY: HONORARY MEDICAL STAFF

Applications are invited from registered medical practitioners under the age of 60 years for appointment to the post of Honorary Registrar to the Department of Medicine (Psychiatry) at the Provincial Hospital, Port Elizabeth.

The appointment is subject to the Hospital Ordinance No. 18 of 1946 (Cape) as amended, and the rules and regulations of the Department.

Applications containing full particulars of qualifications and experience, must be addressed to the Medical Superintendent of the Provincial Hospital, Gipson Road (P.O. Box 80), Port Elizabeth to reach his office as soon as possible.

Port Elizabeth
11 March 1953

(10301)

The Medical Association of South Africa : Die Mediese Vereniging van Suid-Afrika

AGENCY DEPARTMENT : AGENTSKAP-AFDELING

JOHANNESBURG

Medical House, 5 Esselen Street. Telephone 44-9134-5, 44-0817
Mediese Huis, Esselenstraat 5. Telefone 44-9134-5, 44-0817

PRAKTYKE TE KOOP : PRACTICES FOR SALE

(Pr/S66) VERMINDERDE PREMIE. Uitstekende O.V.S. praktyk. Jaarlikse inkomste £3,400. D.G. aanstelling besorg 'n inkomste van ongeveer £100 per maand. Geen slegte skulde. Premie is verminder na £1,150 of naaste aanbod en terme kan gereël word om koper te pas. Geen huis om oorgeneem te word nie.

(Pr/S70) O.F.S. hospital town. Very well-established practice. One appointment. Average annual income £3,600. This outstanding practice is for sale at only £1,500, payable as follows: £1,000 cash and balance over 15 months. A most delightful home is for sale at only £4,000 and a large bond could be raised.

(Pr/S71) O.F.S. hospital town. Monthly income of £225 of which £150 cash. Excellent scope for expansion. Will suit doctor interested in surgery. What offers? Terms will be arranged.

(Pr/S73) Excellent Pretoria practice, established 20 years ago. Two appointments worth £115 per month. *Net* income of £3,000 p.a. £400–£500 monthly bookings. Three months' introduction will be given. Premium required is £3,000, payable as follows: £1,000 cash and balance at £100 per month. Further details on application.

(Pr/S76) Unopposed O.F.S. country practice. Average net income is £2,000 per annum. Premium required is £1,500 and payable as follows: £500 deposit and balance out of earnings over a period to be arranged. Beautiful house and surgery to let.

(Pr/S74) O.V.S. Uitstekende praktyk met een myn-aanstelling van £400 per jaar. Aanstelling is definitief oordraagbaar. Jaarlikse inkomste van tussen £2,400 en £3,000 kan aansienlik vermeerder word. Premie is £750 en betaalbaar as volg: deposito van ongeveer £500 en balans teen £25 per maand. Huis en spreekkamers te huur teen £5 per maand.

(Pr/S75) Oos-Transvaal. Geen opposisie en in hande van eienaar vir laaste 13 jaar. Een aanstelling. Jaarlikse inkomste is ongeveer £2,250. Lewenskoste baie laag. Pragtige woning en spreekkamers op een morg, tesame met praktyk, word aangebied teen die nominale bedrag van £3,500 en kopers kan voorstel tot afbetaling, voorlê.

(P/O15) REDUCED PREMIUM: Half share in O.F.S. country practice partnership. Annual income £7,000 plus, showing a net income of £2,000 for each partner. Premium reduced to £1,500 and terms can be arranged.

(P/O16) Half share in general practice in Southern Rhodesia hospital town. Average net share of each partner £4,600 p.a. Appointments worth £2,700 p.a. Premium and house on terms. Will suit man with wide surgical experience.

FOR SALE

(I/O44) 'Peerless' Diathermy machine, with accessories and Caput applicator. £65.

(I/O45) Birtcher Challenger portable model Diathermy machine as new. Price £130 o.n.o.

(I/O46) Infra Red Lamp with folding stand, as new. £10.

(I/O47) Wax bath. £12.

(I/O48) Complete set arms and legs water bath. £12.

(I/O49) Short-wave Diathermy (Luckenbach). Excellent condition. £100.

(I/O50) Prometheus Lamp for theatre on high adjustable stand, in excellent condition. Price £15 o.n.o.

(I/O51) Siemens Ultra-therm, short-wave, has done 179 hours. New valve recently. Price £120.

(I/O52) Philips Practix Portable X-ray unit, almost new. Collapsible stand. Fluoroscope, cassettes, darkroom accessories, etc. A.C. 220V. 72KVP. Tropic-proof. Price £350.

(I/O53) Instrument trolley, sterilizer and examination couch. Have been in use for four months. Reasonable price.

NURSING HOME FOR SALE

Nursing home, comprising 15 beds, as a going concern, in progressive O.F.S. hospital town and holiday resort. Price £7,000 o.n.o. Details on application

DURBAN

112 Medical Centre, Field Street. Telephone 2-4049

PRACTICES FOR SALE : PRAKTYKE TE KOOP

(PD13) Natal Lower South Coast practice, near Pondoland border, suitable for retired doctor. Area developing and large Police holiday camp in vicinity. Excellent climate and very good fishing. Premium required £400, includes good stock of drugs and dressings, instruments and dispensary furniture. House for sale £1,800, including stand of one-third morgen. Bond available. For immediate sale. Owner having taken a full-time appointment.

(PD15) General practice established 1941 at pleasant residential and seaside resort about 10 miles south of Durban. Annual income approximately £1,000. No major surgery, minimum of minor surgery and only emergency midwifery being done at present. Brick house with consulting room attached, for sale at £5,250. Owing to ill health owner wishes to retire early in 1953. Premium £1,250 including drugs, surgery and dispensary furniture.

(PD18) Natal Midlands. Excellent prospects in rapidly developing area. General mixed practice. Seller going overseas. Premium £1,500 includes surgery furniture, fittings, instruments. Total gross receipts for 1950, £2,691; 1951, £2,709; 1952, £2,573. Ideal climate and sporting facilities. For immediate sale.

(PD19) Eastern Pondoland. General country practice suitable for husband and wife. District Surgeoncy vacant. Gross receipts 1950, £2,114; 1951, £2,235; 1952, £2,221. Premium £500 includes drugs and furniture. One appointment. Practice and house for immediate sale.

ASSISTENTE/PLAASVERVANGERS VERLANG ASSISTANTS/LOCUMS REQUIRED

(132) Durban. Locum required as soon as possible for 3 months in well-established general practice. Possibility of assistantship. Salary to be discussed with the principal.

(133) From 15 June for 1 month. Locum preferably with own car. General country practice and District Surgeoncy. £2 12s. 6d. per day, plus board, lodging and laundry. Excellent climate. Near Drakensberg mountains.

(134) Zululand. From 26 June to end of July. £2 12s. 6d. per day, all found. Must be bilingual and possess own car.

* * * *

KAAPSTAD : CAPE TOWN

Posbus 643, Telefoon 2-6177: P.O. Box 643, Telephone 2-6177.

PRAKTYKE TE KOOP : PRACTICES FOR SALE

(895) Partnership share in practice of Specialist Physician. Details on application.

(1132) East Griqualand. Opportunity for highly lucrative unopposed practice. Rich European farming area bounded by large native territory. D.S. appointment. Beautifully built large 7-roomed house on 3 erven. New Diesel lighting plant fully automatic generating 230 volts. £4,000 required for house, lighting plant, stock of drugs. Easy terms.

(740) Large dispensing practice, mainly non-European Average annual cash receipts approx. £5,200. £5,500 required for premium, drugs and surgery furniture. Details on application.

(1276) Large hospital town, solus practice. Cash income for 1952 was £3,831 11s. Premium required is £1,600 cash or on terms. Excellent surgery furniture as well as instruments included.

(1115) Cape Town suburban practice. Details on application.

(1266) Noord-Kaaplandse hospitaaldorp. Praktyk met kontantontvangste ongeveer £5,300 jaarliks. Geen opposisie. Medisyne word toeberei. Premie verlang £2,500 (medisyne, spreekkamermeubels, ens. word ingesluit). Huis te koop teen £2,000. Terme in afbetaling kan gereël word.

(1279) Kaap Provinsie. Hawestad. Praktyk met inkomste van £3,700. Premie £3,500, apteekmeubels, ens. ingeslote. Huis moontlik te huur, teen £20 p.m. Uitstekende geleentheid vir uitbreiding.

(1280) Eastern Cape dispensing practice with a large native

population. Gross receipts £3,151. Premium required £1,500 including drugs, fittings and furniture. Modern house for sale at £3,500.

OPHTHALMIC PRACTICE FOR SALE

(1325) Excellent opportunity to acquire expanding practice with two appointments. The area served is enormous and the population is steadily becoming specialist conscious. Present income approximately £3,000 per year. Possibilities for expansion are exceptionally good.

ASSISTENTE/PLAASVERVANGERS VERLANG ASSISTANTS/LOCUMS REQUIRED

(1256) Kaapse Middellande. Gedurende Junie of Julie, vir 3 weke. £2 12s. 6d. per dag plus vry losies en kartoelaag.
(861c) Karoo. Assistent vir 2 maande in hospitaaldorp.
(979) Boland hospital town. Assistant with view to partnership. Car provided. Salary £75 per month. Single man preferred.
(1299) Northern suburb. From 8 May 1953 for ± 3 months. Salary offered £75 plus £5 petrol allowance. Single man to live in.

KOOP VAN VENNOOTSKAPSAANDEEL

(1110) 'n Geneesheer met 'n heel paar jaar ondervinding in sy eie algemene praktyk stel belang in 'n vennootskap met 'n kollega wat taamlik snywerk doen, verkieslik in 'n hospitaaldorp in of naby die Vrystaat. 'n Assistentskap met die oog op latere vennootskap sal ook oorweeg word.

FOR SALE

(1079) HUMAN SERUM ALBUMEN imported from U.S.A., fully potent for further 18 months, held in refrigeration at Cape Town. Indicated for use in any condition in which the blood protein is reduced.
Below oedema levels can be restored to normal within 12 hours.
(1020) Port Elizabeth. E.C.G. Sanborn viso-cardiette: portable 11 Selector Lead all-mains' model in perfect condition. Payment could be made in instalments.

CONSULTING ROOMS WANTED

(1082) Specialist requires consulting rooms in Central Cape Town for a few hours daily. Wishes to share waiting room and services receptionist. (Quote also **1136** and **1228**).

Rand Aid Association

VACANCY FOR PART-TIME PSYCHIATRIST

Applications are invited from registered Psychiatrists for the post of part-time Psychiatrist to the Association to attend its inmates in certain of its institutions.

The successful applicant will be required to assume duty on 1 July 1953, and to devote an average of at least 24 hours a week to the requirements of the Association. The commencing salary will be £900 a year and a travelling allowance at the rate of 8½d. per mile will be paid. The appointment may be terminated by the giving of six months' notice by either side.

Applications should reach the office of the Rand Aid Association, P.O. Box 5925, Johannesburg not later than 15 April 1953.

G. J. Peo
General Secretary

9 March 1953

For Sale

One Jones B.M.R. Machine; one Lamotte Chemical Outfit for estimation of blood urea, blood sugar, blood chlorides, urine urea, blood cholesterol and creatinine, etc. For further particulars write 'A. Q. A.', P.O. Box 643, Cape Town.

Departement van Gesondheid

VAKATURES VIR BESOEKENDE MEDIESE BEAMPTES (DEELTYDS): KING GEORGE V-HOSPITAAL, DURBAN

Aansoeke om aanstelling in ondergenoemde poste in die personeel van die King George V-Hospitaal, Durban, word van behoorlik gekwalifiseerde kandidate ingewag.

Pos	*Honorarium aan pos verbonde*
(a) Bors-chirug	£600 per jaar (vasgestel)
(b) Dermatoloog	£600 per jaar (vasgestel)

Kandidate moet Suid-Afrikaanse burgers of burgers van 'n Statebondsland of die Republiek Ierland en tweetalig wees en moet minstens drie jaar in die Unie van Suid-Afrika of Suidwes-Afrika gewoon het.

Registrasie by die Suid-Afrikaanse Mediese en Tandheelkundige Raad as 'n spesialis in die besondere spesialiteit is 'n noodsaaklike vereiste vir aanstelling in enigeen van die poste.

Van die aangestelde persone sal verwag word om saam te werk in alle navorsing wat met hul spesialiteite in verband staan en om, waar moontlik, personeelsamesprekings by te woon.

Nadere besonderhede in verband met hierdie voorgenome aanstellings is van die Mediese Superintendent van die betrokke hospitaal verkrygbaar.

Daar moet aansoek gedoen word op die voorgeskrewe vorms (Z.83 en S.D.K.8) wat van die Sekretaris van Gesondheid, Posbus 386, Pretoria, verkrygbaar is.

Die sluitingsdatum vir die ontvangs van aansoeke is 11 April 1953.

(40077)

O.V.S. Provinsiale Administrasie

VOORTREKKER HOSPITAAL

VAKATURE: RADIOGRAAF GRAAD II

Aansoeke word hierby ingewag vir die pos van Radiograaf Graad II teen 'n salaris van £350 × 30—£560 plus tydelike lewenskostetoelae van £100 per jaar. Die aanvangsalaris sal bepaal word volgens ondervinding en kwalifikasies van die applikant.

Aansoek, waarin gemeld word vorige ondervinding, kwalifikasies, ouderdom asook gewaarmerkte afskrifte van sertifikate en getuigskrifte, geboorte- en mediese sertifikate moet aan die ondergetekende gerig word.

F. A. van Coller
Geneesheer-direkteur

Kroonstad
25 Februarie 1953

(A395632)

O.F.S. Provincial Administration

VOORTREKKER HOSPITAL

VACANCY: RADIOGRAPHER GRADE II

Applications are hereby invited for the post of Radiographer Grade II at a salary of £350 × 30—£560 plus temporary cost-of-living allowance of £100 p.a. The commencing salary will be determined in accordance with qualifications and experience of applicant.

Applications stating previous experience, qualifications and age together with certified copies of certificates and testimonials, also birth and medical certificates should be addressed to the undersigned.

F. A. van Coller
Medical Superintendent

Kroonstad
25 February 1953

(A395632)

Siekefonds van die Suid-Afrikaanse Spoorweë en Hawens

AANSTELLING VAN SPOORWEGDOKTER: OBERHOLZER

Aansoeke word van geregistreerde mediese praktisyns ingewag vir aanstelling in die betrekking van Spoorwegdokter, Oberholzer, en vir die spoorwegtrajek Vleikop (insluitend) tot by Oberholzer (insluitend) tot by Zuurbekom (uitsluitend), teen 'n salaris van £226 per jaar, plus die gelde en toelaes wat in die regulasies van die Siekefonds voorgeskryf word, en met die reg om privaat te praktiseer.

Die salaris is onderhewig aan wysiging in ooreenstemming met die sensus van lede wat op 1 April van elke jaar afgeneem moet word.

Die aanstelling geskied kragtens die regulasies van die Siekefonds, en opsegging van dienste is onderworpe aan vier maande kennisgewing deur een van beide partye.

Die suksesvolle applikant moet te Oberholzer woon, diens aanvaar op 'n datum wat gereël sal word en sy pligte ooreenkomstig die regulasies van die Siekefonds uitvoer.

Aansoeke moet die Distriksekretaris, Distriksiekefondsraad, Wes-Transvaal, Kamer 342, Derde Verdieping, Nuwe Stasiegebou, Johannesburg, nie later nie as 25 April 1953 bereik, en applikante moet die volgende vermeld:

1. Volle naam.
2. Kwalifikasies (waar en wanneer verkry).
3. Ondervinding (waar en wanneer verkry en opgedoen).
4. Datum van geboorte.
5. Land van geboorte.
6. Getroud of ongetroud.
7. Of ten volle tweetalig.
8. Of Suid-Afrikaanse burger.
9. Watter staatsbetrekking, indien enige, beklee word.

Werwing deur of ten behoewe van enige applikant stel so 'n applikant bloot aan diskwalifikasie.

Enige verder besonderhede wat verlang word, kan op aanvraag van die Distriksekretaris by die bovermelde adres verkry word.

P. J. Klem
Hoofsekretaris

Johannesburg
28 Maart 1953

Basutoland Government

MEDICAL DEPARTMENT

LOCUM-TENENCY

Locum required immediately for approximately four months. Salary £70 per month. Furnished quarters are provided free by Government, but where it is necessary to obtain accommodation at an hotel or boarding house, an hotel allowance will be payable and will be the excess (if any) of 33⅓% of the inclusive charge for board and lodging over 10% of salary. Own car not essential, but preferable. An allowance of £1 10s. per month is payable for official trips up to a radius of 2½ miles from station and 9d. per mile for a large car, or 5d. per mile for a small car, for all official trips beyond that distance, if locum uses own car.

Private practice is allowed but is subordinate to official duties.

A knowledge of practical surgery is desirable.

The climate is healthy and the Territory free from tropical diseases.

Applications should be forwarded to the Director of Medical Services, Maseru, from whom further particulars may be obtained. (902)

Rooms To Share

Facilities available for doctor to share rooms, centre Durban. Write 'A. P. Y.', P.O. Box 643, Cape Town.

South African Railways and Harbours Sick Fund

APPOINTMENT OF GYNAECOLOGIST

EAST LONDON

Applications are invited from registered gynaecologists for appointment to the position of gynaecologist, East London, at a salary of £868 p.a., plus the fees and allowances prescribed by the regulations of the Fund and with the right of private practice.

The salary will be subject to adjustment in accordance with the census of members to be taken on 1 April of each year.

The appointment will be made in terms of the Regulations of the Fund, and will be subject to termination on four months' notice being given by either side.

The successful applicant will be required to reside in East London, to take up the appointment on a date to be arranged, and to carry out his duties in accordance with the Regulations of the Fund.

The duties will consist of necessary advice and treatment in all cases of gynaecology including obstetrical cases, referred by a Railway Medical Officer, to those beneficiaries entitled to benefits of the Fund in the area embraced by the Cape Eastern District of the South African Railways and Harbours.

Applications should reach the District Secretary, Cape Eastern District Sick Fund Board, 19 Terminus Street, East London, not later than 25 April 1953, and should state:

1. Full name.
2. Qualifications (where and when obtained).
3. Experience (where and when obtained).
4. Date of birth.
5. Country of birth.
6. Whether married or single.
7. Whether fully bilingual.
8. Whether South African citizen.
9. What Government appointment, if any, is held.

Canvassing by or on behalf of any applicant is liable to disqualify such applicant.

Any further particulars may be obtained from the District Secretary at the above address, on application.

P. J. Klem
General Secretary

Johannesburg
28 March 1953

Natal Provincial Administration

VACANCY: RADIOLOGIST (CONTRACT): COASTAL DISTRICTS

Salary—£1,800 p.a. (fixed).
Temporary Cost-of-Living Allowance:
Single—£100 per annum.
Married—£320 per annum.

Applications should reach the Director of Provincial Medical and Health Services, P.O. Box 20, Pietermaritzburg, Natal, South Africa, by 15 April 1953.

(AD7523)

Locum Required

For a period of 4 weeks (3–31 May 1953) in Umtali, Southern Rhodesia. £2 12s. 6d. per day, board and lodging and car expenses. Locum should possess his own car. Mixed general practice. Write 'A. P. Z.', P.O. Box 643, Cape Town.

Printed by Cape Times Ltd., Parow, and Published by the Proprietors, THE MEDICAL ASSOCIATION OF SOUTH AFRICA, MEDICAL HOUSE, 35 Wale Street, Cape Town. P.O. Box 643. Telephone 2-6177. Telegrams: 'Medical'